What is claimed is:

1. A diversity receiver which is formed of at least two branches receiving a frequency division multiplexing signal that a pilot signal is periodically inserted into a

5   plurality of carriers, said diversity receiver comprising:

an automatic gain control (hereinafter, referred to as an AGC) section which is provided for each branch and controls a gain of a tuner receiving said frequency division multiplexing signal to output an AGC value by the

10  gain control;

a detector which is provided for each branch and detects said frequency division multiplexing signal obtained by said tuner;

a fast Fourier transformer which is provided for each

15  branch and converts a detected output obtained by said detector, by using a fast Fourier transform, from a time domain into a frequency domain to output a carrier including a pilot signal;

an equalizer which is provided for each branch,

20  equalizes a carrier obtained by said fast Fourier transformer by using a pilot signal and estimates the channel characteristic of the carrier;

a reliability calculator which is provided for each branch and calculates the reliability value of the carrier

25  from a pilot signal outputted from said equalizer and an

60

AGC value outputted from said AGC section; and

a carrier selecting/combining section which performs

one of selecting and weighting combining upon each carrier

in accordance with the reliability value from said

5  reliability value calculator.


2.  A diversity receiver according to claim 1, wherein

said reliability calculator includes:

a reliability value calculation section which is

10  provided for each branch and calculates a reliability value

of a carrier from a pilot signal outputted from said

equalizer; and

a reliability value correction section which corrects

the reliability value calculated in said reliability value

15  calculation section by an AGC value from said AGC section,

and

said carrier selecting/combining section performs one

of selecting and weighting combining upon each carrier in

accordance with a corrected reliability value in said

20  reliability value correction section.


3.  A diversity receiver according to claim 2, wherein

said reliability value correction section inputs an

AGC value of said AGC section and a reliability value of

25  said reliability value calculation section to a

predetermined correction table for each branch to correct said reliability value on the basis of said correction table.

4. A diversity receiver according to claim 2, wherein said reliability value correction section excludes a specified carrier by performing correction of reducing the reliability value of the corresponding carrier to zero when said carrier of a branch in which it is determined by an AGC value from said AGC section that a received power is lower than a predetermined reference value.

5. A diversity receiver which is formed of at least two branches receiving a frequency division multiplexing signal that a pilot signal is periodically inserted into a plurality of carriers, said diversity receiver comprising:

an AGC signal which is provided for each branch and controls a gain of a tuner receiving said frequency division multiplexing signal to output an AGC value by the gain control;

a detector which is provided for each branch and detects said frequency division multiplexing signal obtained by said tuner;

a fast Fourier transformer which is provided for each branch and converts a detected output obtained by said

detector, by using a fast Fourier transform, from a time domain into a frequency domain to output a carrier including a pilot signal;

an equalizer which is provided for each branch, equalizes a carrier obtained by said fast Fourier transformer by using a pilot signal and estimates the channel characteristic of the carrier;

a reliability calculator which is provided for each branch and calculates a reliability value of a carrier from a pilot signal outputted from said equalizer and an AGC value outputted from said AGC section; and

a carrier selecting/combining section which excludes a carrier of a branch in which it is determined from the AGC value of said AGC section that the received power is lower than a predetermined reference value, and performs one of selecting and weighting combining for each carrier by using the reliability value obtained from said reliability calculator when said received power is equal to or larger than the predetermined reference value.

6. A diversity receiver which is formed of at least two branches receiving a frequency division multiplexing signal that a pilot signal is periodically inserted into a plurality of carriers, said diversity receiver comprising:

an AGC signal which is provided for each branch and

controls the gain of a tuner receiving said frequency

division multiplexing signal to output an AGC value by the

gain control;

a detector which is provided for each branch and

5   detects said frequency division multiplexing signal

obtained by said tuner;

a fast Fourier transformer which is provided for each

branch and converts a detected output obtained by said

detector, by using a fast Fourier transform, from a time

10   domain into a frequency domain to output a carrier

including a pilot signal;

an equalizer which is provided for each branch,

equalizes a carrier obtained by said fast Fourier

transformer by using a pilot signal and estimates the

15   channel characteristic of the carrier;

a comparator which compares said AGC values for

branches and outputs a differential value between AGC

values;

a reliability calculator which is provided for each

20   branch and calculates a reliability value of each carrier

on the basis of a pilot signal outputted from said

equalizer and the differential value between AGC values

outputted from said comparator; and

a carrier selecting/combining section which performs

25   one of selecting and weighting combining upon each carrier

in accordance with the reliability value from said

reliability calculator.


7. A diversity receiver according to claim 6, wherein

5 said reliability calculator includes:

a reliability value calculation section which

calculates the reliability of each carrier by using the

pilot signal outputted from said equalizer; and

a reliability value correction section which corrects,

10 on the basis of a result of comparison by said comparator,

a reliability value from said reliability value calculation

section by said differential value between AGC values, and

said carrier selecting/combining section performs one

of selecting and weighting combining for each carrier in

15 accordance with the corrected reliability value from said

reliability value correction section.


8. A diversity receiver according to claim 7, wherein

said reliability value correction section inputs said

20 differential value between AGC values outputted from said

comparator and an output from said reliability value

calculation section to a predetermined correction table to

correct said reliability value on the basis of said

correction table.

25

9. A diversity receiver according to claim 7, wherein said reliability value correction section excludes a specified carrier by performing correction of reducing the reliability value of a branch with relatively lower

5    received power to zero when said differential value between AGC values outputted from said comparator is equal to or larger than a predetermined threshold.


10. A diversity receiver which is formed of at least

10   two branches receiving a frequency division multiplexing signal that a pilot signal is periodically inserted into a plurality of carriers, said diversity receiver comprising:

an AGC signal which is provided for each branch and controls a gain of a tuner receiving said frequency

15   division multiplexing signal to output an AGC value by the gain control;

a detector which is provided for each branch and detects said frequency division multiplexing signal obtained by said tuner;

20   a fast Fourier transformer which is provided for each branch and converts a detected output obtained by said detector, by using a fast Fourier transform, from a time domain into a frequency domain to output a carrier including a pilot signal;

25       an equalizer which is provided for each branch,

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equalizes a carrier obtained by said fast Fourier

transformer by using a pilot signal and estimates the

channel characteristic of the carrier;

a comparator which compares said AGC values for

5   branches to determine whether or not the differential value

between AGC values is equal to or larger than a

predetermined threshold, and outputs the result of

comparison;

a reliability calculator which is provided for each

10  branch and calculates the reliability value of each carrier

from a pilot signal outputted from said equalizer; and

a carrier selecting/combining section which, when it

is determined that said differential value between AGC

values outputted from said comparator is equal to or larger

15  than the predetermined threshold, excludes a carrier of a

branch with relatively lower received power, and performs

one of carrier selecting and weighting combining by using

the reliability value from said reliability value

calculator when said differential value is less than the

20  predetermined threshold.


11.  A diversity receiver which is formed of at least

two branches receiving a frequency division multiplexing

signal that a pilot signal is periodically inserted into a

25  plurality of carriers, said diversity receiver comprising:

a detector which is provided for each branch and detects said frequency division multiplexing signal obtained by said tuner;

a fast Fourier transformer which is provided for each branch and converts a detected output obtained by said detector, by using a fast Fourier transform, from a time domain into a frequency domain to output a carrier including a pilot signal;

an equalizer which is provided for each branch, equalizes a carrier obtained by said fast Fourier transformer by using a pilot signal and estimates the channel characteristic of the carrier;

a C/N calculator which is provided for each branch and calculates a C/N value by using a carrier outputted from said equalizer;

a reliability calculator which is provided for each branch and calculates the reliability value of each carrier by using a pilot signal outputted from said equalizer and a C/N value outputted from said C/N calculator; and

a carrier selecting/combining section which performs one of selecting and weighting combining for each carrier in accordance with a reliability value from said reliability calculator.

12. A diversity receiver according to claim 11,

wherein

said reliability calculator includes:

a reliability value calculation section which is

provided for each branch and calculates the reliability

5 value of each carrier by using the pilot signal outputted

from said equalizer; and

a reliability value correction section which corrects

the reliability value from said reliability value

calculation section on the basis of the C/N value from said

10 C/N calculator, and

said carrier selecting/combining section performs one

of selecting and weighting combining for each carrier in

accordance with the corrected reliability value from said

reliability value correction section.

15

13. A diversity receiver according to claim 12,

wherein

said reliability value correction section inputs the

C/N value from said C/N calculator and the reliability

20 value from said reliability value calculation section to a

predetermined correction table to correct said reliability

value in accordance with said correction table.

14. A diversity receiver according to claim 12,

25 wherein

said reliability value correction section excludes a specified carrier by performing correction of reducing the reliability value of a branch in which said C/N value is lower than a predetermined reference value to zero.

5

15. A diversity receiver which is formed of at least two branches receiving a frequency division multiplexing signal that a pilot signal is periodically inserted into a plurality of carriers, said diversity receiver comprising:

10     a detector which is provided for each branch and detects said frequency division multiplexing signal obtained by said tuner;

a fast Fourier transformer which is provided for each branch and converts a detected output obtained by said

15   detector, by using a fast Fourier transform, from a time domain into a frequency domain to output a carrier including a pilot signal;

an equalizer which is provided for each branch, equalizes a carrier obtained by said fast Fourier

20   transformer by using a pilot signal and estimates the channel characteristic of the carrier;

a C/N calculator which is provided for each branch and calculates a C/N value by using a carrier outputted from said equalizer;

25     a reliability calculator which is provided for each

branch and calculates the reliability value of each carrier

by using a pilot signal outputted from said equalizer; and

a carrier selecting/combining section which excludes a

carrier of a branch in which a C/N value calculated in said

5    C/N calculator is lower than a predetermined reference

value and, when said C/N value is higher than said

predetermined reference value, performs one of selecting

and weighting combining for each carrier in accordance with

the reliability value from said reliability calculator.

10

16.    A diversity receiver which is formed of at least

two branches receiving a frequency division multiplexing

signal that a pilot signal is periodically inserted into a

plurality of carriers, said diversity receiver comprising:

15    a detector which is provided for each branch and

detects said frequency division multiplexing signal

obtained by said tuner;

a fast Fourier transformer which is provided for each

branch and converts a detected output obtained by said

20    detector, by using a fast Fourier transform, from a time

domain into a frequency domain to output a carrier

including a pilot signal;

an equalizer which is provided for each branch,

equalizes a carrier obtained by said fast Fourier

25    transformer by using a pilot signal and estimates the

channel characteristic of the carrier;

a C/N calculator which is provided for each branch and calculates a C/N value by using a carrier outputted from said equalizer;

5      a comparator which is provided for each branch and compares said C/N values to output a differential value between said C/N values;

a reliability calculator which is provided for each branch and calculates the reliability value of each carrier

10     on the basis of a pilot signal outputted from said equalizer and a differential value between C/N values outputted from said comparator; and

a carrier selecting/combining section which performs one of selecting and weighting combining upon each carrier

15     in accordance with the reliability value from said reliability calculator.

17.    A diversity receiver according to claim 16, wherein

20         said reliability calculator includes:

a reliability value calculation section which is provided for each branch and calculates the reliability value of each carrier by using the pilot signal outputted from said equalizer; and

25         a reliability value correction section which, when it

is determined by said comparator that a differential value
between C/N values exceeds a threshold, corrects said
reliability value calculated by said reliability value
calculation section by using said differential value

5      between C/N values, and

said carrier selecting/combining section performs one
of selecting and weighting combining for each carrier in
accordance with the corrected reliability value from said
reliability value correction section.

10

18.   A diversity receiver according to claim 16,
wherein

said reliability value correction section inputs the
differential value between C/N values obtained in said C/N

15    calculator and an output from said reliability value
calculation section to a predetermined correction table to
correct said reliability value in accordance with said
correction table.

20      19.   A diversity receiver according to claim 17,
wherein

said reliability value correction section excludes a
specified carrier by performing correction of reducing the
reliability value of a branch with relatively inferior C/N

25    value to zero.

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20.    A diversity receiver formed of at least two

branches receiving a frequency division multiplexing signal

that a pilot signal is periodically inserted into a

5    plurality of carriers, said diversity receiver comprising:

a detector which is provided for each branch and

detects a frequency division multiplexing signal obtained

by a tuner;

a fast Fourier transformer which is provided for each

10    branch and converts a detected output obtained by said

detector from a time domain into a frequency domain by

using a fast Fourier transform to output a carrier

including a pilot signal;

an equalizer which is provided for each branch,

15    equalizes a carrier obtained by said fast Fourier

transformer by using a pilot signal and estimates the

channel characteristic of the carrier;

a C/N calculator which is provided for each branch and

calculates a C/N value by using the carrier outputted from

20    said equalizer;

a comparator which compares said C/N values for

branches outputted from said C/N calculator to output a

differential value between the C/N values;

a reliability calculator which is provided for each

25    branch and calculates the reliability value of each carrier

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on the basis of a pilot signal outputted from said equalizer; and

a carrier selecting/combining section which excludes a carrier of a branch in which the C/N value is relatively inferior to a predetermined reference value when it is determined by said comparator that said differential value between C/N values is equal to or larger than a threshold, and when said differential value between C/N values is less than the threshold, which performs one of selecting and weighting combining upon each carrier in accordance with the reliability value from said reliability calculator.

21. A diversity receiver which is formed of at least two branches receiving a frequency division multiplexing signal, comprising:

an amplifier which is provided for each branch and amplifies said frequency division multiplexing signal;

a converter which is provided for each branch and extracts a plurality of carriers included in the frequency division multiplexing signal from said amplifier;

a demodulator which is provided for each branch and detects an output from said converter;

a reliability calculator which is provided for each branch and calculates a reliability value of each of said carriers by an output from said demodulator and an output

from said amplifier; and

a carrier selecting/combining section which performs one of selecting and weighting combining upon each carrier in accordance with the reliability value calculated in said reliability calculator.

22. A diversity receiver which is formed of at least two branches receiving a frequency division multiplexing signal, comprising:

an amplifier which is provided for each branch, tunes said frequency division multiplexing signal and amplifies the same;

a mixer which is provided for each branch and converts radio frequency signal from said amplifier into an intermediate frequency signal (hereinafter, referred to as an IF signal);

a detector which is provided for each branch and detects said IF signal outputted from said mixer to convert into a complex signal;

a time-frequency converter which is provided for each branch and converts a time domain signal from said detector into a frequency domain signal to output a carrier;

an equalizer which is provided for each branch and corrects the phase and amplitude of the carrier from said time-frequency converter;

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a reliability calculator which is provided for each branch and calculates the reliability value of said carrier by an output from said equalizer and an output from said amplifier; and

5      a carrier selecting/combining section which performs one of selecting and weighting combining upon each carrier in accordance with the reliability value calculated in said reliability calculator.

10     23.  A diversity receiver having at least two branches receiving a frequency division multiplexing signal, comprising:

a reference value calculator which calculates, on the basis of a received signal power, a first reference value

15     for diversity and a second reference value for Viterbi decoding for each of said branches;

a first reliability calculator which calculates a first reliability value used for diversity for each branch by said first reference value;

20     a second reliability calculator which calculates a second reliability value used for Viterbi decoding for each carrier by said second reference value;

a carrier selecting/combining section which performs one of selecting and weighting combining upon each carrier

25     in accordance with said first reliability value for each of

said branches; and

a Viterbi decoder which weights an output from said
carrier selecting/combining section with said second
reliability value to perform maximum likelihood decoding.

5

24. A diversity receiver having at least two branches
receiving a frequency division multiplexing signal,
comprising:

a reference value calculator which calculates, on the

10 basis of a received signal power, a first reference value
for diversity and a second reference value for Viterbi
decoding for each of said branches;

a first reliability calculator which calculates a
first reliability value used for diversity for each branch

15 by said first reference value;

a second reliability calculator which calculates a
second reliability value used for Viterbi decoding for each
carrier by said second reference value;

a carrier selecting/combining section which performs

20 one of selecting and weighting combining upon each carrier
in accordance with the first reliability value for each of
said branches, and performs one of selecting or combining
said second reliability value in accordance with said first
reliability value to convert into a third reliability

25 value; and

a Viterbi decoder which weights a carrier outputted from said carrier selecting/combining section with said third reliability value to perform maximum likelihood decoding.

5

25. A diversity receiver according to claim 24, wherein

said carrier selecting/combining section includes:

a carrier diversity section which performs one of

10    carrier selecting and weighting combining using a first calculation table in accordance with said first reliability value for each of said branches; and

a reliability value diversity section which performs one of selecting and combining said second reliability

15    value using a second calculation table in accordance with said first reliability value for each of said branches to convert into a third reliability value.

26. A diversity receiver having at least two branches

20    receiving a frequency division multiplexing signal in which a scattered pilot signal is periodically inserted into a plurality of carriers, said diversity receiver comprising:

a power calculator which is provided for each branch and calculates the channel characteristic of each carrier

25    by interpolating said scattered pilot signal in time and

frequency directions to calculate the power of the channel

characteristic for each carrier;

a first average power calculator which is provided for

each branch and calculates an average power PA for

5    diversity by using an output from said power calculator;

a second average power calculator which is provided

for each branch and calculates an average power PB for

Viterbi decoding by using an output from said power

calculator;

10    a first reliability calculator which is provided for

each branch and calculates a first reliability value for

each carrier on the basis of said channel characteristic

power for each carrier with said average power PA serving

as a reference;

15    a second reliability calculator which is provided for

each branch and calculates a second reliability value for

each carrier on the basis of said channel characteristic

power for each carrier with said average power PB serving

as a reference;

20    a carrier diversity section which performs one of

selecting and weighting combining upon each carrier in

accordance with said first reliability value for each

branch;

a reliability value diversity section which performs

25    selecting and combining said second reliability value in

accordance with said first reliability value for each

branch to calculate a new third reliability value; and

a Viterbi decoder which weights an output from said

carrier diversity section with said third reliability value

5   to perform maximum likelihood decoding.


27. A diversity receiver according to claim 26,

wherein

said carrier diversity section performs one of

10  selecting and weighting combining for each carrier in

accordance with a first calculation table using said first

reliability value for each branch, and

said reliability value diversity section performs one

of selecting and combining said second reliability value in

15  accordance with a second calculation table using said first

reliability value for each branch to calculate a new third

reliability value.


28. A diversity receiver according to claim 26,

20  wherein

said first average power calculator calculates the

average power PA for diversity by using the channel

characteristic outputted from said power calculator, and

said second average power calculator calculates the

25  average power PB for Viterbi decoding by using the channel

characteristic outputted from said power calculator.

29.   A diversity receiver according to claim 26, wherein

5        said first average power calculator calculates an average power by average calculation which takes longer time than that in said second average power calculator.

30.   A diversity receiver having at least two branches

10   receiving a frequency division multiplexing signal in which a scattered pilot signal is periodically inserted into a plurality of carriers, said diversity receiver comprising:

a power calculator which is provided for each branch and calculates the channel characteristic of each carrier

15   by interpolating said scattered pilot signal in time and frequency directions to calculate the power of the channel characteristic for each carrier;

a first average power calculator which is provided for each branch and calculates an average power PA for

20   diversity by using an output from said power calculator;

a second average power calculator which is provided for each branch and calculates an average power PB for Viterbi decoding by using an output from said power calculator;

25        a first reliability calculator which is provided for

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each branch and calculates a first reliability value by said channel characteristic power for each carrier with an optionally set reference value A0 serving as a reference;

a second reliability calculator which is provided for each branch and calculates a second reliability value for each carrier by said channel characteristic power for each carrier with said average power PB serving as a reference;

a carrier diversity section which performs one of selecting and weighting combining for each carrier in accordance with said first reliability value for each branch;

a reliability value diversity section which performs one of selecting and combining said second reliability value in accordance with said first reliability value for each branch to calculate a new third reliability value; and

a Viterbi decoder which weights an output from said carrier diversity section with said third reliability value to perform maximum likelihood decoding.

31. A diversity receiver according to claim 26, wherein

said second average power calculator calculates the average power PB by an optional short time average.

32. A diversity receiving method formed of at least

two branches receiving a frequency division multiplexing

signal that a pilot signal is periodically inserted into a

plurality of carriers, said method comprising the steps of:

outputting, for each branch, an AGC signal which

5    controls a gain of a tuner receiving said frequency

division multiplexing signal;

detecting said frequency division multiplexing signal

for each branch;

converting, for each branch, said detected output from

10   a time domain into a frequency domain by using a fast

Fourier transform;

equalizing a carrier including a pilot signal obtained

by said fast Fourier transform for each branch;

calculating the reliability value of each carrier by

15   said pilot signal for each branch;

correcting, for each branch, said reliability value on

the basis of said AGC signal; and

performing one of selecting and weighting combining

upon each carrier in accordance with said corrected

20   reliability value.


33.    A diversity receiving method formed of at least

two branches receiving a frequency division multiplexing

signal that a pilot signal is periodically inserted into a

25   plurality of carriers, said method comprising the steps of:

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outputting, for each branch, an AGC signal which
controls a gain of a tuner receiving said frequency
division multiplexing signal;

detecting said frequency division multiplexing signal

5    for each branch;

converting, for each branch, said detected output from
a time domain into a frequency domain by using a fast
Fourier transform;

equalizing a carrier including a pilot signal obtained

10   by said fast Fourier transform for each branch;

calculating the reliability value of each carrier by
said pilot signal for each branch;

comparing said AGC signals to determine whether or not
a result of comparison is equal to or larger than a

15   predetermined threshold;

correcting, for each branch, when said result of
comparison is larger than the threshold, said reliability
value on the basis of said AGC signal; and

performing one of selecting and weighting combining

20   upon each carrier in accordance with said corrected
reliability value.


34.  A diversity receiving method formed of at least
two branches receiving a frequency division multiplexing

25   signal that a pilot signal is periodically inserted into a

plurality of carriers, said method comprising the steps of:

detecting said frequency division multiplexing signal for each branch;

converting, for each branch, said detected output from

5   a time domain into a frequency domain by using a fast

Fourier transform;

equalizing a carrier including a pilot signal obtained by said fast Fourier transform for each branch;

calculating the reliability value of each carrier by

10  said pilot signal for each branch;

calculating a C/N value by said equalized output for each branch;

correcting said reliability value by said C/N value for each branch; and

15      performing one of selecting and weighting combining upon each carrier in accordance with said corrected reliability value.

35.  A diversity receiving method formed of at least

20  two branches receiving a frequency division multiplexing signal that a pilot signal is periodically inserted into a plurality of carriers, said method comprising the steps of:

detecting said frequency division multiplexing signal for each branch;

25      converting, for each branch, said detected output from

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a time domain into a frequency domain by using a fast Fourier transform;

equalizing a carrier including a pilot signal obtained by said fast Fourier transform for each branch;

5    calculating the reliability value of each carrier by said pilot signal for each branch;

calculating a C/N value by said equalized output for each branch;

comparing said C/N values of said branches;

10    determining whether or not said result of comparison exceeds a predetermined threshold and, when said result exceeds said threshold, correcting said reliability value in accordance with said result of comparison for each branch; and

15    performing one of selecting and weighting combining upon each carrier in accordance with said corrected reliability value.


36.    A diversity receiving method having at least two
20    branches receiving a frequency division multiplexing signal that a scattered pilot signal is periodically inserted into a plurality of carriers, comprising the steps of:

calculating the channel characteristic of each carrier by interpolating said scattered pilot signal in time and
25    frequency directions and calculating the power of the

channel characteristic for each carrier;

calculating an average power PA for diversity for each branch;

calculating an average power PB for Viterbi decoding for each branch;

calculating, for each branch, a first reliability value of each carrier by said channel characteristic power for each carrier with said average power PA serving as a reference;

calculating, for each branch, a second reliability value of each carrier by said channel characteristic power for each carrier with said average power PB serving as a reference;

performing one of selecting and weighting combining upon each carrier in accordance with said first reliability value for said each branch;

performs one of selecting and combining said second reliability value in accordance with said first reliability value for said each branch to calculate a new third reliability value; and

weighting a carrier subjected to said one of selecting and weighting combining with said third reliability value and performing maximum likelihood decoding.

37. A diversity receiving method having at least two

branches receiving a frequency division multiplexing signal

that a scattered pilot signal is periodically inserted into

a plurality of carriers, comprising the steps of:

calculating the channel characteristic of each carrier

5   by interpolating said scattered pilot signal in time and

frequency directions and calculating the power of the

channel characteristic of each carrier;

optionally setting, for each branch, a reference value

A0 for diversity;

10   calculating, for each branch, an average power PB for

Viterbi decoding;

calculating, for each branch, a first reliability

value for each carrier by said channel characteristic power

for each carrier with said reference value A0 serving as a

15   reference;

calculating, for each branch, a second reliability

value for each carrier by said channel characteristic power

for each carrier with said average power PB serving as a

reference;

20   performing one of selecting and weighting combining

upon each carrier in accordance with said first reliability

value of each branch;

performing one of selecting and combining said second

reliability value in accordance with said first reliability

25   value of each branch to calculate a new third reliability

value; and

weighting a carrier subjected to said one of selecting and weighting combining with said third reliability value to perform maximum likelihood decoding.